

WHAT IS CLAIMED IS:

1. A fabrication method of a wafer level package comprising the steps of:

5 providing a substrate having a plurality of chip pads on the upper part thereof;

forming a first insulating layer including a first opening exposing the chip pad and a second opening forming a ball land on the substrate;

10 forming a metal wiring connected to the chip pad in a single unit through the first opening and covering the second opening to provide a ball land on the first insulating layer;

forming a second insulating layer including a third opening which covers the metal wiring, except for the third opening, which exposes the metal wiring and defining the ball land; and

15 adhering a conductive ball to the metal wiring exposed by the third opening, the conductive ball being in contact with the defining ball land exposed by third opening.

2. The fabrication method of a wafer level package according to claim 1, wherein the first and second insulating layers comprise a polyimide in liquid or solid form.

3. The fabrication method of a wafer level package according to claim 1, wherein the third opening has a width that is essentially the same as the width of the conductive ball.

5

4. The fabrication method of a wafer level package according to claim 1, wherein the first and second openings are formed by exposing the first insulating layer and conducting irradiation in different degrees.

10

5. The fabrication method of a wafer level package according to claim 1, wherein the first opening is formed by performing an etching process using photolithography on the first insulating layer.

15

6. The fabrication method of a wafer level package according to claim 1, wherein the second opening is formed by performing an etching process using laser irradiation on the first insulating layer.

20

7. The fabrication method of a wafer level package according to claim 6, wherein the irradiated laser energy is in the range of from 0.1 to 2.0 Joule/cm².

8. The fabrication method of a wafer level package according to claim 1, wherein the second opening is formed by performing an etching process using ultraviolet irradiation on the first insulating layer.

5

9. The fabrication method of a wafer level package according to claim 8, wherein the irradiated ultraviolet energy is in the range of from 100 to 300 mJ/cm².

10

10. The fabrication method of a wafer level package according to claim 1, wherein the second opening is formed by performing an etching process using photolithography on the first insulating layer.

15

11. The fabrication method of a wafer level package according to claim 1, wherein the first and second insulating layers comprise a polyimide in liquid or solid form.

20

12. The fabrication method of wafer level package comprising the steps of:

providing a substrate having a plurality of chip pads on the upper part thereof;

forming a first insulating layer, including a first opening exposing the chip pad on the substrate;

forming a second opening for the formation of a ball land by performing an etching process using laser irradiation on a predetermined part of the first insulating layer;

5 forming metal wiring connected to the chip pad in a single unit through the first opening and covering the second opening to provide a ball land on the first insulating layer;

10 forming a second insulating layer having a third opening which covers the metal wiring, except for the third opening so as to expose the ball land; and

 adhering a conductive ball to the metal wiring exposed by the third opening, the conductive ball being in contact with sides of the third opening.

15

13. The fabrication method of a wafer level package according to claim 12, wherein the first opening is formed by performing an etching process using photolithography on the first insulating layer.

20

14. The fabrication method of a wafer level package according to claim 12, wherein the first opening is formed by performing an etching process using laser irradiation on the first insulating layer.

15. The fabrication method of a wafer level package according to claims 14, wherein each of the first and second openings are formed by exposing the first insulating layer with laser irradiation in different degrees.

5

16. The fabrication method of a wafer level package according to claim 12, wherein the irradiated laser irradiation is in the range of from 0.1 to 2.0 Joule/cm².

10

17. The fabrication method of a wafer level package according to claim 12, wherein the third opening has a width wider than that of the second opening.

15

18. The fabrication method of a wafer level package according to claim 12, wherein the third opening has a width similar to the width of the conductive ball.

20

19. The fabrication method of a wafer level package according to claim 12, wherein the first and second insulating layers comprise a polyimide in liquid or solid form.

20. The fabrication method of a wafer level package comprising the steps of:

providing a substrate having a plurality of chip pads on the upper part thereof;

5 forming a first insulating layer to cover the chip pad on the substrate;

forming a first opening exposing the chip pad by performing an etching process using a first ultraviolet irradiation on the first insulating layer;

10 forming a second opening for the formation of a ball land by performing an etching process using a second ultraviolet irradiation on a predetermined part of the first insulating layer;

forming metal wiring connected to the chip pad
15 in a single unit through the first opening and covering the second opening to provide a ball land on the first insulating layer;

forming a second insulating layer having a third opening which covers the metal wiring, except for the third
20 opening so as to expose the ball land; and

adhering a conductive ball to the metal wiring exposed by the third opening, the conductive ball being in contact with the sides of the third opening.

21. The fabrication method of a wafer level package according to claim 20, wherein the first and the second ultraviolet irradiation are each performed at different energy values.

5

22. The fabrication method of a wafer level package according to claim 20, wherein the first ultraviolet irradiation is performed in the energy range of from 50 to 3000 J/cm².

10

23. The fabrication method of a wafer level package according to claim 20, wherein the second ultraviolet irradiation is performed in the energy range of from 10 to 2000 mJ/cm².

15

24. The fabrication method of a wafer level package according to claim 20, wherein the third opening has a width wider than that of the second opening.

20

25. The fabrication method of a wafer level package according to claim 20, wherein the second opening has a width similar to the width of the conductive ball.

26. The fabrication method of a wafer level package according to claim 20, wherein the first and the second insulating layers comprise a polyimide in liquid or solid form.

5 27. The fabrication method of a wafer level package according to claim 14, wherein each of the first and second openings are formed by exposing the first insulating layer with laser irradiation in different degrees.

FOOTNOTES